



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/883,589

06/18/2001

Dan Raphaeli

12407.0019

1980

25937

7590

10/31/2008

Zaretsky Patent Group PC
17505 N 79th Ave, Ste 211
Glendale, AZ 85308-8726

EXAMINER

MEW, KEVIN D

ART UNIT

PAPER NUMBER

2416

MAIL DATE

DELIVERY MODE

10/31/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/883,589	Applicant(s) RAPHAELI ET AL.	
	Examiner Kevin Mew	Art Unit 2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21, 23, 25-86, 93-95 and 100-102 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-21, 23, 25-86 and 93-95 is/are allowed.
- 6) ☒ Claim(s) 100-102 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/24/2001</u> . | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Response to Amendment

1. Applicant's Remarks/Arguments filed on 7/18/2008 have been considered. Claims 22, 24, 87-92, 96-99 have been cancelled and claims 100-102 have been newly added by applicant. Claims 1-21, 23, 25-86, 93-95, 100-102 are currently pending.

2. Acknowledgement is made of the amended claims 27-48, 68, 82 and 95 regarding the claim objections set forth in the previous Office action. The corrections are acceptable and the claim objections have been withdrawn.

3. Acknowledgement is made of the amended claims 1, 31, 60, 80, 93 regarding the 35 USC 112, Second Paragraph rejections set forth in the previous Office action. The corrections are acceptable and the USC 112, Second Paragraph rejections have been withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 100-102 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,078,591 to Kalkunte et al.

Regarding claim 100, Kalkunte discloses a method of accessing a network channel by a station, said method comprising the steps of:

dividing contention for channel access into a plurality of N windows (e.g., dividing the contention into a plurality of collision delay intervals, see col. 9, lines 49-67, col. 10, lines 1-26), each window corresponding to one of N priority levels (collision delay interval corresponds to whether it is high priority or not priority, co. 9, lines 58-67), wherein N is a positive integer greater than zero (N is at least two, i.e., high priority or not priority, col. 9, lines 58-67);

contending for access to said channel only during a window matching the priority of a particular transmission (contending for transmission during a window/collision delay interval t_D matching the associated priority of a transmission, col. 9, lines 49-67, col. 10, lines 1-26); and

providing a fast carrier detect (FCD) signal having a high false alarm rate (whether a receive carrier is sensed during the minimum interpacket gap IPG interval, col. 10, lines 27-36)

Art Unit: 2416

to predict the start of transmissions from other stations on said channel (to sense a receive carrier on the media, col. 10, lines 27-36).

Regarding claim 101, Kalkunte discloses the method according to claim 100, further comprising the step of dynamically adapting the size of a window to match current traffic requirements in said network (collision delay interval to match the number of collisions encountered).

Regarding claim 102, Kalkunte discloses the method according to claim 101, wherein said window is adjusted as a function of the number of stations estimated to be transmitting on said channel in the same priority class (collision delay interval as a function of the number of collisions encountered for the high priority class).

Response to Arguments

5. Applicant's arguments with respect to claims 100-102 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

6. Claims 1-21, 23, 25-86, 93-95 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

In claim 1, a method of accessing a channel in a communication transceiver coupled to a communication channel, the transceiver adapted to provide carrier sense, said method comprising the steps of:

decrementing said backoff counter while said medium is idle;
suspending said backoff counter upon receipt of a FCD signal;
resuming decrementing said backoff counter upon failure of a CD signal to arrive within a CD time, said CD time proportional to a time period during which the arrival of a CD signal is expected in the event a transmission is received;
deferring transmission until a next contention period upon receipt of a CD signal; and
starting transmission upon expiration of said backoff counter.

In claim 20, a method of accessing a channel in a communication transceiver coupled to a communications channel, said method comprising the steps of:

deferring zero or more contention windows until arrival of a contention window whose priority corresponds to the priority of a particular transmission;
decrementing said backoff counter while said medium channel is idle; and

attempting to reserve said channel upon expiration of said backoff counter.

In claim 31, a carrier sense multiple access (CSMA) based communications system wherein transmissions are preceded by a contention phase during which one or more transmitters compete for access to a channel, comprising:

reservation means adapted to attempt reservation of said channel upon expiration of said backoff timer and to enable transmission upon successful reservation of said channel.

In claim 49, a communications transceiver for transmitting and receiving over a carrier sense multiple access (CSMA) frame based communications network wherein frame transmissions are separated by a contention interframe space (CIFS) during which one or more nodes compete for access to said network, comprising:

defer zero or more contention windows until arrival of a contention window whose priority corresponds to the priority of a particular transmission;

decrement said backoff counter while said medium channel is idle;

attempt to reserve said channel upon expiration of said backoff counter.

In claim 60, a computer readable storage medium having a computer program embodied thereon for causing a suitably programmed system to access a channel in a carrier

Art Unit: 2416

sense multiple access (CSMA) frame based communications system wherein frame transmissions are separated by a contention interframe space (CIFS) during which one or more transmitters compete for access to said channel by performing the following steps when such program is executed on said system:

- deferring zero or more contention windows until arrival of a contention window whose priority corresponds to the priority of a particular transmission;
- decrementing said backoff counter while said channel is idle;
- attempting to reserve said channel upon expiration of said backoff counter.

In claim 80, a method of accessing a communications channel in a network including a plurality of stations, said method comprising the steps of:

- waiting until the arrival of a contention window having a priority corresponding to the priority of transmission of a particular station and upon the arrival thereof
- decrementing said backoff counter while said channel is idle; and
- attempting to reserve said communications channel upon expiration of said backoff counter.

Art Unit: 2416

In claim 83, a method of accessing a communications channel in a network including a plurality of stations, said method comprising the steps of:

waiting until the arrival of a contention window having a priority corresponding to the priority of transmission of a particular station and upon the arrival thereof decrementing said backoff counter while said medium channel is idle;

attempting to reserve said channel upon expiration of said backoff counter.

In claim 93, a method of accessing a communications channel in a power line carrier based network including a plurality of stations, said method comprising the steps of:

each station wishing to transmit, selecting a random backoff time;

within the contention window having matching priority, waiting a random backoff time;
upon expiration of said backoff time, attempting to reserve said communications channel;
and

suspending countdown of said backoff time if presence of carrier signal is detected.

In claim 94, a method of accessing a communications channel in a network including a plurality of stations, said method comprising the steps of:

Art Unit: 2416

waiting until the arrival of a contention window having a priority corresponding to the priority of transmission of a particular station and upon the arrival thereof, decrementing said backoff counter while said medium channel is idle;

attempting to reserve said channel upon expiration of said backoff counter;

declaring the existence of a hidden station after a predetermined number of failed attempts to reserve said communications channel; and in accordance therewith, increasing the width of said backoff time slot and repeating said steps of initializing,

waiting and attempting to reserve said communications channel.

In claim 95, a method of accessing a communications channel in a network including a plurality of stations, said method comprising the steps of:

waiting until the arrival of a contention window having a priority corresponding to the priority of transmission of a particular station and upon the arrival thereof, decrementing said backoff counter while said medium channel is idle;

attempting to reserve said channel, upon expiration of said backoff counter, for a duration sufficient to transmit said plurality of frames;

transmitting said plurality of frames from a transmitting station to a receiving station; and

Art Unit: 2416

said receiving station transmitting an acknowledgement (ACK) reply to said transmitting station containing a plurality of ACK bits, each ACK bit indicating whether one of said frames is to be retransmitted.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 571-272-3141. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Chi H Pham/
Supervisory Patent Examiner, Art Unit
2416

/K. M./
Examiner, Art Unit 2416